Notice of Allowability	Application No.	Applicant(s)	
	09/388,831	BORCHERS, GREGORY EUGENE	
	Examiner	Art Unit	
	Shawn S. An	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/29/04*.

2. ☒ The allowed claim(s) is/are *1-6,12,14-16,36 and 37*.

3. ☒ The drawings filed on *01 September 1999* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Examiner's Amendment

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

IN THE CLAIMS:

A) Please amend claims 12 and 14 as follows:

12. (currently amended) A method for adjusting real time color images encoded in a video signal suitable for producing a display on a screen comprising:

decoding the video signal into at least one original color signal associated with a color of the original image;

using a reference color image to generate at least one reference color signal associated with a color of the reference image;

generating multiple adjusted signals from the reference color signal according to multiple pre-generated tested generic transforms associated with a different type of color blindness, the transforms non-modifiable by a user of the display, and the transforms not based on input from the user [either before or] prior to and after the user takes a color blindness examination;

applying the adjusted signals to the screen at the same time, the screen thereby displaying at the same time multiple color images each adjusted for one of the different types of color blindness and displaying the multiple color images prior to testing the user for color blindness;

partitioning the screen into a plurality of sections, and displaying the multiple color images in the different sections;

accepting an input from the user selecting one of the multiple color images; and

using the transform for the selected one of the displayed multiple color images for applying to an input video signal to compensate for color blindness of the user.

14. (currently amended) A method for adjusting real time color images encoded in a video signal suitable for producing a display on a screen comprising:

decoding the video signal into at least one original color signal associated with a color of the original image;

digitizing the original color signal to produce at least one original value;

generating an adjusted signal from the original color signal according to a first pre-generated transform associated with a first types of color blindness by looking up in a memory an adjusted value corresponding to the original value, the transform not-modified [or modifiable] by a user [either before or] prior to and after a user color blindness evaluation;

applying the adjusted signal to the screen, the screen thereby displaying color images adjusted for the first type of color blindness prior to conducting the user color blindness evaluation to determine a type of color blindness associated with the user;

selecting a set of coordinates for defining a color space;

selecting a type of color blindness;

characterizing the selected type of color blindness with respect to the coordinates as at least one discernible region in the color space;

selecting a color gamut adjustment that maps at least one region outside the discernible region into the discernible region, the adjustment including rotating at least a portion of one of the regions;

generating the original values and the adjusted values that perform the color gamut adjustment; and

storing the original values and the adjusted values in a look up table in the memory.

REMARKS:

Claims 12 and 14 have been amended as above, as authorized by Applicant's attorney, Todd Iverson (53,057) on April 29, 2005.

2. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Shawn S An whose telephone number is 571-272-7324.

SHAWN AN
PRIMARY EXAMINER

4/29/05

Reasons for Allowance

1. As per Applicant's instruction as filed on 11/29/04, claims 1, 3, 12, and 14 have been amended, and claims 7-11, 13, 17-35, and 38-46 have been canceled.

2. Claims 1-6 and 36-37 are allowed.

Furthermore, Claims 12 and 14-16 are allowed after entering the Examiner's Amendment as discussed above.

3. The following is an Examiner's statement of reasons for allowance.

Claims 1-6 and 36-37 recite novel features of a real time video system for displaying color images that are adjusted for color blindness from original color images encoded in a real time video signal, comprising:

a decoder for decoding the video signal into at least one original color signal associated with a color of the original image;

a compensation processor coupled with the decoder for receiving the original color signal, the compensation processor including a plurality of separate pre-calculated color point remappings that are configured to compensate for different types of color blindness, that are non-modifiable by a user of the video system, and are not customized by the user prior to and after a vision test is performed by the user, the compensation processor structured to remap the original color signal into multiple different color blind compensated signals by remapping color points from the original color signal, for compensating for multiple different types of color blindness; and

display circuitry structured to cause the screen to display an image using the original color signal simultaneously displaying the same image using the multiple different color blind compensated signals, thereby displaying multiple versions of the same image at the same time that compensate for different types of color blindness prior to the user providing color blind information to the compensation processor.

Claim 12 recites novel features of a method for adjusting real time color images encoded in a video signal suitable for producing a display on a screen, comprising:

decoding the video signal into at least one original color signal associated with a color of the original image;

using a reference color image to generate at least one reference color signal associated with a color of the reference image;

generating multiple adjusted signals from the reference color signal according to multiple pre-generated tested generic transforms associated with a different type of color blindness, the transforms non-modifiable by a user of the display, and the transforms not based on input from the user prior to and after the user takes a color blindness examination,

applying the adjusted signals to the screen at the same time, the screen thereby displaying at the same time multiple color images each adjusted for one of the different types of color blindness and displaying the multiple color images prior to testing the user for color blindness;

partitioning the screen into a plurality of sections, and displaying the multiple color images in the different sections;

accepting an input from the user selecting one of the multiple color images; and

using the transform for the selected one of the displayed multiple color images for applying to an input video signal to compensate for color blindness of the user.

Claims 14-16 recite novel features of a method for adjusting real time color images encoded in a video signal suitable for producing a display on a screen, comprising:

decoding the video signal into at least one original color signal associated with a color of the original image;

digitizing the original color signal to produce at least one original value;

generating an adjusted signal from the original color signal according to a first pre-generated transform associated with a first types of color blindness by looking up in a memory an adjusted value corresponding to the original value, the transform not-modified by a user prior to and after a user color blindness evaluation;

applying the adjusted signal to the screen, the screen thereby displaying color images adjusted for the first type of color blindness prior to conducting the user color blindness evaluation to determine a type of color blindness associated with the user;

selecting a set of coordinates for defining a color space;

selecting a type of color blindness;

characterizing the selected type of color blindness with respect to the coordinates as at least one discernible region in the color space;

selecting a color gamut adjustment that maps at least one region outside the discernible region into the discernible region, the adjustment including rotating at least a portion of one of the regions;

generating the original values and the adjusted values that perform the color gamut adjustment; and

storing the original values and the adjusted values in a look up table in the memory.

The prior art of records fail to anticipate or make obvious the novel features (emphasis added on underlined limitations) as discussed above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to ***Shawn S An*** whose telephone number is 571-272-7324.

5. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHAWN AN
PRIMARY EXAMINER

4/29/05